



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/055,388	01/23/2002	Eise Carel Dijkmans	NL 010029	7672

24737 7590 07/13/2005

PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER

LE, LANA N

ART UNIT	PAPER NUMBER
----------	--------------

2685

DATE MAILED: 07/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/055,388

Applicant(s)

DIJKMANS ET AL

Examiner

Lana N. Le

Art Unit

2685

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 3/03/05 have been fully considered but they are not persuasive. In regards to the argument that the foreign priority overcomes the filing date of the US reference, the US reference has a provisional filing date of 1/12/01 which is before the foreign priority date.

Drawings

2. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because in fig. 1 "mixen" should be "mixer". Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. Claims 6 and 10 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 6, the phrase "such as" after "MOST" and the phrase "or the like" after "FET," renders the claim indefinite because it is unclear whether the

limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Specification

4. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if

the required "Sequence Listing" is not submitted as an electronic document on compact disc).

5. The specification contains no heading for each section. Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-2 and 10-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Vishakhadatta et al (US 2002/0,141,511).

Regarding claim 1, Vishakhadatta et al disclose a front end for a high frequency receiver (839, 851), which front end comprises a low noise amplifier (LNA circuitry 824), characterized in that the low noise amplifier (LNA circuitry 824) is a quadrature low noise amplifier (LNA circuitry with in phase and quadrature outputs; para. 79; fig. 8).

Regarding claim 2, Vishakhadatta et al disclose a high frequency receiver (839, 851), which is provided with a front end comprising a low noise amplifier (LNA circuitry 824), and which is provided with quadrature mixers (dowconverting circuitry comprising

I and Q mixers producing I and Q outputs) coupled to the low noise amplifier (2), characterized in that the low noise amplifier is a quadrature low noise amplifier (LNA circuitry with in phase and quadrature outputs; para. 79; fig. 8).

Regarding claim 10, Vishakhadatta et al disclose a communication device, for example a radio receiver, transceiver (RF transceiver; fig. 8) or a telephone, such as a mobile or cordless telephone, provided with a high frequency receiver (839, 851) according to claim 2.

Regarding claim 11, Vishakhadatta et al disclose a quadrature low noise amplifier (LNA circuitry with in phase and quadrature outputs; para. 79; fig. 8) for application in the high frequency receiver (high RF frequency in i.e. PCS, GSM, DCS bands; 839, 851) according to claim 2.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vishakhadatta et al (US 2002/0,141,511) in view of Yan et al (US 6,816,718).

Regarding claim 3, Vishakhadatta et al disclose the high frequency receiver according to claim 2, wherein Vishakhadatta et al fail to further disclose the receiver is characterized in that quadrature paths of the quadrature low noise amplifier are

implemented differentially. Yan et al disclose receiver is characterized in that quadrature paths (I and Q outputs) of the quadrature amplifier (24, 26) are implemented differentially (para. 30). It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement differentially the amplifiers in order to distinguish the two separate in phase and quadrature characteristics of the amplifier.

10. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vishakhadatta et al (US 2002/0,141,511) in view of Yan et al (US 6,816,718) and further in view of Sano et al (US 5,546,048).

Regarding claim 4, Vishakhadatta et al and Yan et al disclose the high frequency receiver according to claim 3, wherein Vishakhadatta et al and Yan et al do not disclose the receiver is characterised in that the differential quadrature low noise amplifier is constructed as a class AB operating circuit. Sano et al disclose the receiver is characterised in that the differential quadrature low noise amplifier is constructed as a class AB operating circuit (col 11, line 49 – col 12, line 8). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the amplifier as a class AB operating circuit in order to set a bias current to flow at no input signal as suggested by Sano et al (col 12, lines 7-9).

11. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vishakhadatta et al (US 2002/0,141,511) in view of Franca-Neto (US 6,509,799).

Regarding claim 5, Vishakhadatta et al disclose the high frequency receiver according to claim 2, wherein Vishakhadatta et al and the cited prior art fail to further disclose the receiver is characterized in that the quadrature low noise amplifier comprises a cascode arrangement of semiconductors (20, 22). Franca-Neto discloses a low noise amplifier comprising a cascode arrangement of semiconductors (fig. 2; col 4, lines 14-37).

Regarding claim 6, Vishakhadatta et al and Franca-Neto disclose the high frequency receiver according to claim 5, characterised in that the semiconductors (transistors 20, 22) are of the type MOST, such as NMOST or PMOST, or FET (col 7, lines 10-16).

Regarding claim 7, Vishakhadatta et al and Franca-Neto disclose the high frequency receiver according to claim 5, characterised in that across the cascode arrangement of semiconductors there is connected a capacitor (52; fig. 2).

12. Claim 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vishakhadatta et al (US 2002/0,141,511) in view of Glas et al (US 6,904,538).

Regarding claim 8, Vishakhadatta et al disclose the high frequency receiver according to claim 2, Vishakhadatta et al do not disclose the high frequency receiver comprises two quadrature choppers coupled between respective outputs of the quadrature low noise amplifiers and respective inputs of the quadrature mixers. Glas et al disclose the high frequency receiver comprises two quadrature choppers (202, 203) coupled between respective outputs of the quadrature amplifiers (200, 201) and

Art Unit: 2685

respective inputs of the quadrature mixers (208, 209) (col 7, lines 29-31). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have choppers between the quadrature amplifiers and mixers in order to square off the signals to clip the highest and the lowest amplitude so that the signals appear to be square wave as suggested by Glas et al (col 3, lines 44-47).

13. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vishakhadatta et al (US 2002/0,141,511) in view of Gratian (US 2,730,699).

Regarding claim 9, Vishakhadatta et al disclose the high frequency receiver according to claim 2, wherein Vishakhadatta et al do not disclose the receiver is characterised in that the quadrature choppers and quadrature mixers are combined to passive quadrature choppers/mixers. Gratian discloses the receiver is characterised in that the quadrature choppers and quadrature mixers are combined to passive quadrature choppers/mixers (col 7, lines 29-31). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the limiters and mixers in order to clip the highest and the lowest amplitude while at the same time mixing the signals to a lower frequency to save circuit components.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lana N Le whose telephone number is (703) 308-5836. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F Urban can be reached on (703) 305-4385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Lana Le', with a stylized flourish at the end.

Lana Le

July 10, 2005